Sid Meier's

CIVILIZATION™

TECHNICAL SUPPLEMENT

for IBM PC & compatible computers

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CONTENTS

Your *Civilization* game should contain a manual, this technical supplement folder, a set of high-density 5 1/4" disks or 3 1/2" disks, a registration card, and an order card for backup disks.

REQUIRED EQUIPMENT

Computer: This simulation requires an IBM PC, XT, AT, PS/2, Compaq, Tandy 1000, or a computer 100% compatible with one of those models. The machine must have at least 640K of RAM.

Controls: The simulation is best run with a mouse and keyboard, but may be run entirely from the keyboard.

Display: The simulation requires a color monitor with an IBM EGA, MCGA, VGA or Tandy 1000 graphics system. EGA systems must have 256K on the graphics card (standard on all but the earliest releases). The simulation will not run on a system with a monochrome monitor. If you are using a compatible graphics card/monitor, it must be 100% hardware compatible to one of the above.

DOS: You must have IBM or MicroSoft DOS, version 3.0 or higher.

INSTALLATION

Installation Concepts

Civilization is not copy-protected. This means you can copy the game files from the original disks however you prefer — to other floppy disks, or to a hard disk. These files are normal in all respects, and should not cause special problems when backing up, restoring, or optimizing a hard disk. However, keep the original disks handy.

Civilization has been left unprotected for your convenience in making back-up copies and when playing from a hard drive. However, making additional copies to give away or sell is a Copyright Violation. See the Copyright Notice at the end of the game manual.

Installation on Floppy Disks

This simulation is designed to run using copies of the original (distribution) disks supplied in the box. You *can* run the game using the distribution disks, but no information will be saved. We suggest making back-up copies and using those to play from. A description of how to make back-up copies follows. Also, format disks before doing any copying — to make sure the disk is "clean" and in good operating condition.

Format a Floppy Disk: Formatting a disk requires that you boot your computer with DOS, and at the ">" prompt type the appropriate format command. For example, on most machines this is "FORMAT A:" to format a floppy disk in the A: floppy drive. For details, consult the description of "FORMAT" in your DOS manual.

Regardless of the type of drive that you have, format one disk for each of the game disks and one disk for your save-game files.

Copy to Newly Formatted Disks: After formatting disks, now use the DOS "COPY" command to copy the disks with *.* as the file designators. Typically this command is entered as "COPY A:*.* B:*.*", even if you just have one floppy drive. For details, consult the description of "COPY" in your DOS manual.

Installation on a Hark Disk

You can copy the original (distribution) disks onto a hard disk. The files copied are standard DOS files. They can be copied, erased, and optimized as desired.

Install Program: For your convenience, batch files are included that automatically install the program onto your hard disk. To use these files, place the "#1" disk in your A: drive, type either "INSTALLC", "INSTALLD", or "INSTALLE", press Return (Enter), and follow the prompts. Use the command INSTALLC if your hard drive has only one partition. Use the INSTALLD or INSTALLE command if your hard drive has more than one partition and you want to install the game on your second or third partition.

Warning: The install batch file assumes you will install from floppy drive A: onto hard disk C:, D:, or E:. If your hardware configuration is different, do not use the batch file. Instead, you must manually copy the files from the floppy to the hard disk, using the DOS "COPY" command.

Technical Notes: This install program creates a subdirectory on your hard disk titled "MPS" and a subdirectory of it titled "CIV". The program copies all files into the CIV subdirectory. It then copies a runtime batch file into the MPS directory titled "CIV.BAT", for your convenience. If you're an experienced IBM user, feel free to modify or move "CIV.BAT" in the root directory.

LOADING

Loading from Floppy Disks with a Single Drive

1. **Boot your machine** using DOS (version 3.0 or higher recommended).
2. **Insert Disks:** When the "A:>" prompt appears, remove the DOS disk and insert the *Civilization* "#1" disk. Thereafter during play you are prompted when you must remove the "#1" disk to insert the "#2" or "#3" disks. Note that at certain times the program accesses the "#1" disk for information so do not remove the "#1" disk from your drive once the game has begun unless prompted to make a switch. Also, be aware that game animations and certain additional graphics are only available from two disk or hard drive systems. Use the back-up copies made in the install instructions above.
3. **Set Speed:** If you have a "turbo" or multi-speed computer, use your normal speed setting.
4. **Load Program:** Type the following:

   CIV

   and press return. The simulation will begin loading.

Loading from Floppy Disks with Two Drives

1. **Boot your machine** using DOS (version 3.0 or higher recommended).
2. **Insert Disks:** When the "A:>" prompt appears, remove the DOS disk and insert the *Civilization* "#1" disk. Put the "#2" disk in the second drive to start. Do not remove a disk from your drive once the game has begun unless prompted to do so or saving a game or loading a saved game from a saved game disk. Use the back-up copies made in the install instructions above.
3. **Set Speed:** If you have a "turbo" or multi-speed computer, use your normal speed setting.
4. **Load Program:** Type the following:

   CIV

   and press return. The simulation will begin loading.

Loading from a Hard Disk

This assumes your machine runs under DOS when it boots, which is true of 99+% of all IBM and compatible machines with hard disks.

1. **Turn on your machine.** If it is already on, exit all programs and return to the MPS directory with the "CD" DOS command. For example, if your hard disk is C: then "cd C:\MPS" does this.
2. **Set Speed:** If you have a "turbo" or multi-speed computer, use your normal speed setting.
3. **Load Program:** Type the following:

   CIV

   and press return. The simulation will begin loading.

Graphics Options

VGA: Select this option if you have a VGA graphics board.
MCGA: Select this option if you have a PS/2 or an MCGA graphics board.
EGA: Select this option if you have an EGA graphics board. This option provides 16 colors.
Tandy 1000: Select this option if you have a Tandy 1000. This option provides 16 colors.

Sound Driver Options

When *Civilization* loads it asks you to select a sound option. The current options include the following:

No Sound: This turns off all sound throughout the game.

IBM Sound: This default sound is appropriate to all IBM PC, XT, AT and PS/2 machines with no special sound hardware.

Tandy Sound: Only use this option on Tandy computers, which include a special music chip.

Ad Lib/Sound Blaster or Compatibles Sound Board: Only use this option if you've added to your computer the Ad Lib music board or a compatible.

Roland LAPC-1 MIDI Board: Only use this option if you've added to your computer this sound board produced by Roland. An MT-32 or CM32L can also be used with an MPU-401 compatible MIDI interface. If you encounter problems when using Roland sound hardware, remove any other MIDI input connections and try again.

Custom Drivers: In the future, MicroProse may supply custom sound drivers for new sound boards. To install one of these drivers, copy it into your game directory (disk B if on floppies), rename the driver program to XSOUND.EXE, and select "Custom sound driver" when starting the game.

Loading Problems?

The latest notes regarding this program and problems with "compatibles" can be found on disk, in an ASCII file named "READ.ME". You can read this file using standard DOS commands, such as "TYPE READ.ME".

If the program does not load or run correctly, turn off your entire machine and restart it. Make sure DOS and *Civilization* are the *only* programs loading into memory. Certain RAM-resident programs or tools can conflict with *Civilization*.

If you receive a message stating that you do not have enough memory, try playing with EGA graphics instead of VGA or with IBM sound instead of Ad-Lib or Roland sound.

If you continue to have trouble, try the original *Civilization* disks. Your copies may be bad. If the original don't work, try the original *Civilization* disks in another PC. If the disks work in another machine, then your machine has compatibility problems (i.e., some aspect is not entirely IBM compatible). Try a different machine speed, or a keyboard/mouse, graphics, or sound option. Sometimes an alternate setting will work.

If you have trouble loading on other machines as well as your own, you may be one of the tiny percentage with a defective disk. In such cases, contact **MicroProse Customer Service at (410) 771-1151, Monday through Friday, 9am-5pm Eastern time.** Please have a pencil and paper handy when you call.

CUSTOMER SERVICE & TECHNICAL SUPPORT

(410) 771-1151
Monday – Friday
9 am to 5 pm
Eastern Time

Saved Games

You may save games currently under way and recontinue them at a later date. Games may be saved onto your hard drive or onto a previously formatted saved game disk. You may not save games onto your game disks or back-up game disks. To save a current game, pull down the Game menu and choose "Save Game". In addition, when you have the Game Option "Autosave" turned on, your game is saved every fifty turns.

Saving Games To A Floppy Drive

1. Place your previously formatted save game disk in the floppy drive you wish to save to, normally either your A: or B: drive. (Be aware that you cannot format a disk while the game is underway, so have formatted disks handy.)
2. Enter the letter of the drive where you have previously placed your save game disk and Press return.
3. This opens the saved game files on your save game disk. Move the highlight to the file into which you wish to save your game and press return. This saves your game into this file.

Saving Games To A Hard Drive

1. The letter of your hard drive is already shown in the window, so simply press Return.
2. This opens the saved game files on your hard drive. Move the highlight to the file into which you wish to save your game and press return. This saves your game into this file.

You may only have a limited number of games saved on any disk. If the game files are full on any disk, move the highlight to the existing saved game you wish to overwrite and press return. This writes the new saved game over the old one, erasing the old one. If you don't want to erase any game on a full disk, hit the ESC key to return to the game, and start the process of saving a game over. However, you cannot format a disk while the game is underway, so have additional formatted disks handy.

Loading A Saved Game

Saved games can be loaded as a pre-game option or restored during play. To load a saved game, follow these instructions:

1. Choose the option "Load a Saved Game" when you start the game or, during play, pull down the Game menu and choose the option "Load Game."
2. Type the letter of the drive where the saved game disk is located, either your hard drive (D: or C: normally) or a floppy drive (A: or B: normally).
3. After selecting the drive, press return.
4. Move the highlight down the list of saved games until the game you wish to load is highlighted, and press return. This loads the saved game.

All saved games consist of two files, a CIVIL#.SVE file and a CIVIL#.MAP file. Each file is differentiated by the name you chose for yourself when the saved game was started and the game year when it was saved. Saved game files are normal DOS files that can be moved and copied using standard DOS commands.

Copy Protection

Although the software is not protected against copying, there is a form of paper protection included. After every 50 turns you are asked to answer a simple question regarding the civilization advances included in the game. You are shown the picture of an advance and requested to choose the prerequisites for it from a list of advances. The answers to the quiz are found in the bottom left corner of manual pages and the correct manual page is shown as part of the quiz.

CONTROLS

Game Commands

Function	*Keyboard*	*Mouse*
Center map on active unit	C key	
Change menu highlight	Numeric keypad keys	Drag mouse
Choose menu option	Return key/Spacebar	Click left mouse button
Leave menu or screen	Escape key	
Map cursor on/off	Tab key (Keyboard-Only interface)	
Menu help	Alt + H keys (where noted)	
Quit game	Alt + Q keys	
Scroll map	Shift + numeric keypad direction key	
Sound off/on	Alt + V keys	
Toggle units on/off	T key	

Unit Commands

Function	*Keyboard*	*Mouse*
Agricultural improvement*	I key	
Build fortress*/Fortify	F key	
Build Railroad*	R key	
Build Road*	R key	
Clear pollution*	P key	
Disband	Shift + D key	
Found new city*	B key	
Go To	G key	
Home city	H key	
Industrial improvement*	M key	
Move unit	Numeric keypad direction keys	
No orders	Spacebar	
Pillage	Shift + P key	
Sentry	S key	
Unload ship	U key	
Wait	W key	

* = Settlers only

Short Keys Information

Function	*Keyboard*	*Mouse*
Change Luxury rate	– key	
Change Tax rate	= key	
Find city	Shift + ? key	
Open Menu Bar menu	Alt + first letter key	
Save game	Shift + S key	
City Status	F1 function key	
Military Advisor	F2 function key	
Intelligence Advisor	F3 function key	
Attitude Advisor	F4 function key	
Trade Advisor	F5 function key	
Science Advisor	F6 function key	
Wonders of the World	F7 function key	
Top 5 Cities	F8 function key	
Civilization Score	F9 function key	
World Map	F10 function key	

City Display Commands (Keyboard-Only Interface)

Function	*Keyboard*	*Mouse*
Change production map	P key	
Change Specialist	1-8 key	
Sell improvement	S key	
Activate unit	A key	
Change production	C key	
Buy production	B key	

ADDITIONAL IBM FEATURES

The following additional game features were added to the IBM version.

Name Your Tribe

While selecting your pre-game options you may insert any name you wish for your tribe instead of selecting one of the fourteen available from the Select Your Tribe menu. To insert a name of your own, press the Escape key when the Tribe menu opens. Then type in the name you wish and press the Return key to enter it into the game. It is recommended that the name be made plural, such as "Scots, Franks," or "Hittites," so that the game text reads correctly. Thereafter, your civilization is known by this name.

Menu Help

When you have opened the production change menu from the city display or when you are asked to select a new advance for your scientists to pursue, you may obtain access to the Civilopedia to help make your decision. Using the mouse, click the RMB on any selection to read about it from the Civilopedia. Using the keyboard-only interface, press the Alt + H keys to open the Civilopedia. Menus that have this help function indicate that it is an option.

Additional Game Menu Options

There are two additional choices available under the Options selection of the Game Menu: Sound and Enemy Moves. As for all Options choices, a check-mark indicates the option is on, and no check-mark indicates the option is off.

Sound: Choosing the Sound option toggles the music and sound effects off and on.

Enemy Moves: When this option is on, the program shows you the moves of all enemy units that you are aware of. When off, you see only the enemy moves that cause combat, or those that occur on the part of map currently visible in the map display. Turning off enemy moves may have the effect of speeding play later in the game when there are many enemy units moving.

In addition, two other options need further comment.

Animations: It is recommended that anyone playing from floppy disks turn off Animations as this significantly speeds play.

AutoSave: Each separate disk has ten slots for saved games. The first four, numbered 0 - 3, are for games saved on demand from the Game menu. The other six slots, numbered 4 - 9, are taken by games saved through the AutoSave option.

Production

When the change production menu is open on the city display, showing what items can be built in a city, some items may be marked with an "*" symbol. This symbol indicates that the item has already been made obsolete by the advance of technology, even though you may still build it.

Unhappy People

Under the governments of the Republic and Democracy, people are made unhappy by ground units and ships not in their home city. People are also made unhappy by air units and nuclear bomb units, regardless of where they are located.

Replay Options

When you retire from play, a menu opens offering the option of reviewing a variety of replays of your civilization's history. You can choose the Quick Replay, the Complete Replay, or Write Replay to Disk.

Quick Replay: This replay shows the basic land mass of the world and proceeds to report the founding, capture, and destruction of cities by all civilizations throughout the game. From this replay you can quickly see the rise and fall of civilizations and learn what was happening while you were busy in your part of the world. This replay proceeds on its own.

Complete Replay: The complete replay shows the information reported in the Quick Replay, but also reports who first achieves each civilization advance, who first builds each unit and Wonder, changes in the state of war or peace between civilizations, and the destruction of civilizations. At various dates this replay reports your standing in the world. The Complete Replay stops after each information report. You must press the Spacebar or the Return key to proceed.

Write Replay to Disk: Choosing this selection writes the Complete Replay information into a text file named "Replay.txt" that is saved on your hard disk. In addition, a map of the world is also saved. This map shows all land mass and the location and nationality of all cities. It also shows where cities that have been destroyed were located. Once you have left the program you can print out this information as a text file and you may read it by opening it in a text editing program.

Powergraph

When you retire, a Powergraph appears that shows the relative strength over time of the civilizations in the game, including yours. The power of all civilizations is indicated on the graph by lines in the civilization's color. The higher a line climbs, the greater the power of the civilization. Civilization's that are destroyed have their lines fall to the bottom of the graph. For this graph, power includes everything your civilization possesses, including cities, population, improvements, Wonders, your treasury, and units.

Additional Game Credits

Tandy Sound Effects
Scott Patterson

Additional Playtesting
Doug Kaufman

KEYBOARD-ONLY INTERFACE

If you do not have a mouse, you must use the following controls to perform those functions otherwise handled by the mouse. All other IBM keyboard commands noted in the manual operate normally.

Menus: All menus listed on the Menu Bar of the map display may be opened by pressing the Alt key plus the first letter of the menu's name. Use the arrow keys or the numeric keypad keys to move the menu highlight up or down. The keypad 8 key moves the highlight up and the 2 key moves the highlight down. Press the Return key to select the option that is highlighted.

Buttons: Almost all buttons are operated in the same manner. Enter the key for the first letter of the button's name to press the button. The only exceptions are the "Info" buttons on the Intelligence Report which are numbered and opened by pressing the correct number key.

Map Display

At the map display, press the Tab key to turn on the map cursor. This white box appears on the currently active unit or at the center of the map window. The cursor may be moved around the map using the the numeric keypad keys. When the cursor is moved off of the map window, the map scrolls, re-centering on the cursor.

Jump Map: You can jump around the map faster by holding down the Shift key while pressing the keypad direction keys.

Activating Units: Units on sentry duty or fortified may be activated by moving the cursor onto their map square and pressing the Return key. This opens a menu of the units in the square. Highlight any unit you wish to activate and press the Return key again. When you have finished activating units in the square, press the Escape key to return to the map.

Opening City Display: To open a city display, move the cursor onto the city's map square and press the Return key.

City Display

All buttons on the city display are operated by pressing the first letter of the button's name.

City Map Changes: To remove people from the workforce or rearrange where the people are working on the city map press the P key. This places the cursor on the city square. Use the arrow or keypad keys to move the cursor around the city map. When the cursor is on the square from which you wish to remove the people, press the Return key. This removes the workers from the square and converts one citizen in the population roster into a Specialist.

To put a Specialist back to work on the map, move the cursor to the correct empty square and press Return. The Specialist converts back to a normal citizen and the square goes back into development.

If you currently have no Specialists and press Return while the cursor is on an empty square, the workforce is rearranged on the map as your advisors recommend.

When you are finished making changes on the city map, press the Escape key.

Specialists: Each time you create a Specialist, he appears as an Entertainer in the population roster. Specialists are numbered 1 - 8, beginning from the left. You can convert Entertainers to Taxmen and Scientists by pressing the number key that corresponds to the Specialist. For example, to convert the second Entertainer from the left into a Scientist, press the 2 key twice. The first press of the 2 key converts him into a Taxman and the second press converts the Taxman into a Scientist. A third press makes him an Entertainer again.

Specialists are converted back to normal citizens by putting them back to work on the city map, as explained above.

Selling Improvements: To sell an improvement, press the S key. This turns the improvement roster into a normal menu with a highlight bar. Move the highlight bar to the improvement you wish to sell and press Return. From the "yes/no" menu that next appears again highlight the option that you wish to sell the improvement and press Return. The improvement is sold and disappears from the roster.

Activating Units: Units on sentry duty or fortified within the city may be activated from the information window. Press the Info button to show the units if they are not already visible. Sentry units are faded out and fortified units have a black border around them. To activate these units, press the A key. This makes the first unit blink. Use the keypad direction keys to move the cursor to the unit you wish to activate and press the Return key. This activates the unit. When you are finished activating units, press the Escape key.

TERRAIN CHART

	Terrain	*Movement Point Cost*	*Defense Bonus*	*Economic Value*	*I*	*M*	*Road*
	Arctic	2	0%	nothing	no effect	no effect	no effect
	Desert	1	0%	R	+1 F	+1 R	+1 T
	Forest	2	50%	F RR	Plains	no effect	no effect
	Grassland	1	50%	FF R?	+1 F	Forest	+1 T
	Hills	2	100%	F RR	+1 F	+1 R	no effect
	Jungle	2	50%	F	Grassland	Forest	no effect
	Mountains	3	200%	R	no effect	+1 R	no effect
	Ocean	1	0%	F TT	no effect	no effect	no effect
	Plains	1	0%	F R	+1 F	Forest	+1 T
	Rivers	1	50%	FF R? T	+1 F	no effect	no effect
	Swamp	2	50%	F	Grassland	Forest	no effect
	Tundra	1	0%	F	no effect	no effect	no effect

Notes

1. I = irrigation or agriculture improvement; M = mining or industrial improvement; F = food; R = resources; T = trade; R? = 50% chance of resource being present.
2. Government effects: Economic value of any commodity that equals three units or higher is -1 unit under Despostism/Anarchy. Trade is +1 for any square already generating trade under Republic/Democracy.
3. Movement along Roads costs 1/3 movement points per square.
4. Railroads increase all commodities by 50%, rounded down. Movement along Railroads costs 0 movement points.

Special Resources

	Terrain	*Movement Point Cost*	*Defense Bonus*	*Economic Value*	*I*	*M*	*Road*
	Coal	2	100%	F RR	+1 F	+3 R	no effect
	Fish	1	0%	FFF TT	no effect	no effect	no effect
	Game (For.)	2	50%	FFF RR	Horses	no effect	no effect
	Game (Tun.)	1	0%	FFF	no effect	no effect	no effect
	Gems	2	50%	F TTTT	Grassland	Game	no effect
	Gold	3	200%	R TTTTTT	no effect	+1 R	no effect
	Horses	1	0%	F RRR	+1 F	Game	+1 T
	Oasis	1	0%	FFF R	+1 F	+1 R	+1 T
	Oil	2	50%	F RRRR	Grassland	Game	no effect
	Seals	2 mp	0%	FF	no effect	no effect	no effect

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CIVILIZATION™
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D/D
VGA
EGA

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